

511,689

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



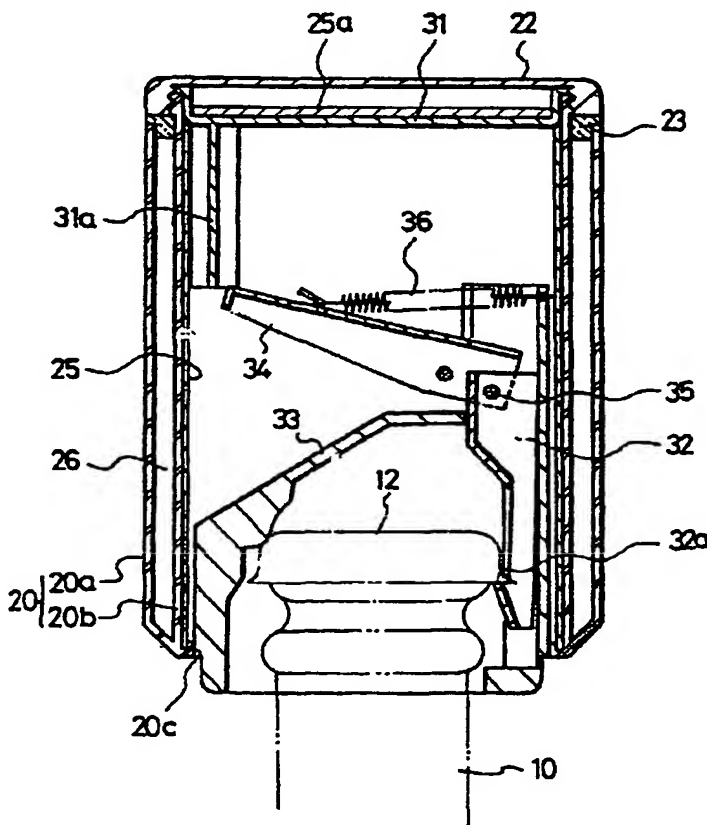
(43) International Publication Date  
30 October 2003 (30.10.2003)

PCT

(10) International Publication Number  
**WO 03/089362 A1**

- (51) International Patent Classification<sup>7</sup>: **B67B 7/16**, Chang [KR/KR]; Samick apartment 503-1003, 15 Myungil-1dong, Kangdong-ku, Seoul 134-824 (KR).  
7/00, G09F 23/06
- (21) International Application Number: PCT/KR03/00765 (74) Agent: **LEE, Ki-Sung**; 4th Floor Dongbo Building, 647-8, Yeoksam-dong, Gangnam-gu, Seoul 135-080 (KR).
- (22) International Filing Date: 16 April 2003 (16.04.2003)
- (25) Filing Language: Korean (81) Designated States (*national*): JP, US.
- (26) Publication Language: English (84) Designated States (*regional*): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).
- (30) Priority Data: 20-2002-0011510 16 April 2002 (16.04.2002) KR
- (71) Applicant (*for all designated States except US*): **KOREA ALPHALINE CO. LTD.** [KR/KR]; 435-5 Dunchon-dong, Kangdong-ku, Seoul 134-060 (KR).
- Published:  
— with international search report
- (72) Inventor; and  
(75) Inventor/Applicant (*for US only*): **WANG, Soo**
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: PUSH OPENER



(57) Abstract: Disclosed is a push opener suitable for removing a cap (12) fitted to an opening of a bottle (10). The push opener includes an intermediate lid (31) having an elongate arm, a first operation arm (32) formed with an engagement projection to be engaged with a lower end of the bottle cap, a second operation arm (33) for supporting an upper end of the bottle cap, an inclined arm (34) hinged to the first operation arm (32) and positioned directly below the elongate arm of the intermediate lid (31), to be pivoted and raise the first operation arm (32) when an opener body (20) is pushed downward, a spring (36) for returning the pivoted inclined arm (34) to its original position, an inner housing (20b) formed of transparent material, an outer housing formed of transparent material and positioned radially outward of the inner housing, and a first advertising section (25) provided the inner housing (20b) or the outer housing (20d).

WO 03/089362 A1

## PUSH OPENER

### Technical Field

The present invention relates, in general, to a push opener for removing a cap from a bottle and, more particularly, to a push opener which is provided with an advertising section for allowing a variety of ads to be putted therein to thereby accomplish certain degrees of advertisement and sales promotion effects.

### Background Art

Generally, a cap is fitted to an opening of a bottle for liquids such as beverages and liquors. The cap can be removed by twisting and rotating the cap using the hand or by employing a separate opener made of steel.

Openers are divided into a lever type opener for removing a cap by leverage and a push type opener (hereinafter referred to as a "push opener"). In the push opener, an upper end portion of a bottle, including a cap, is inserted into an opened lower end of the push opener, and then by pushing downward a body of the push opener, the cap is removed from the bottle.

While the conventional lever type opener having an advertisement has been disclosed in the art, a push opener provided with an advertising section has not been disclosed in the art. Therefore, in the art, there is increasing demand for a push opener having an advertising section capable of accomplishing certain degrees of advertisement and sales promotion effects.

### Disclosure of the Invention

Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide a push opener which is provided with an advertising section.

Another object of the present invention is to provide a push opener in which a filler element is placed in a space defined between inner and outer housings constituting an opener body, to stimulate one's curiosity and improve an aesthetic appearance of the push opener.

5 In order to achieve the above objects, according to the present invention, there is provided a push opener suitable for removing a cap fitted to an opening of a bottle, including an intermediate lid which is positioned below an upper lid and has a downwardly extending elongate arm, a first operation arm which is formed with an engagement projection to be engaged with a lower end of the bottle cap, a  
10 second operation arm which is positioned separately from the first operation arm to support an upper end of the bottle cap, an inclined arm having one end which is hinged to the first operation arm and the other end which is positioned directly below the elongate arm of the intermediate lid, to be pivoted and thereby raise the first operation arm when an opener body is pushed downward, and a spring for  
15 returning the pivoted inclined arm to its original position, the push opener comprising: an inner housing formed of transparent material; an outer housing formed of transparent material and positioned radially outward of the inner housing such that a space is defined between the outer and inner housings; and a first advertising section provided to the inner housing or the outer housing.

20 According to another aspect of the present invention, the upper lid is detachably coupled to an upper end of the opener body, and a second advertising section is provided to the upper cap.

According to still another aspect of the present invention, a filler element is placed in the space defined between the outer and inner housings.

#### 25 Brief Description of the Drawings

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective view illustrating an outer appearance of a push opener in accordance with a first embodiment of the present invention;

Fig. 2 is a schematic longitudinal sectional view of Fig. 1; and

5 Fig. 3 is a sectional view illustrating a push opener in accordance with a second embodiment of the present invention.

### Best Mode for Carrying Out the Invention

Reference should now be made to the drawings, in which the same reference numerals are used throughout the different drawings to designate the same or similar components.

10 Fig. 1 is a perspective view illustrating an outer appearance of a push opener in accordance with a first embodiment of the present invention; and Fig. 2 is a schematic longitudinal sectional view of Fig. 1. As shown in Figs. 1 and 2, a push opener in accordance with an embodiment of the present invention is used to remove a cap 12 fitted to an opening of a bottle 10. The push opener  
15 comprises an opener body 20 having a cylindrical configuration and a cap removing section (not shown), which is installed in the opener body 20 to remove the cap 12 from the bottle 10.

The opener body 20 is opened at a lower end thereof in a manner such that an upper end portion of the bottle 10, including the cap 12, can be inserted  
20 into the opened lower end of the opener body 20. An upper lid 22 is provided to an opened upper end of the opener body 20 in a manner such that the upper lid 22 can open and close the upper end of the opener body 20 by being threadedly rotated. The upper lid 22 may be formed of transparent material as in the case of outer and inner housings 20a and 20b described later in detail, and a first  
25 advertising section 25a may be provided to a lower surface of the upper lid 22.

The opener body 20 includes a cylindrical inner housing 20b, and an outer housing 20a which is positioned radially outward of the inner housing 20b such that a space is defined between the outer and inner housings 20a and 20b.

While it was explained that the opener body 20 according to this preferred embodiment of the present invention has the cylindrical configuration, it can be envisaged that the opener body 20 may have a quadrangular or a triangular configuration in consideration of a design of the entire push opener.

5       The outer and inner housings 20a and 20b are formed of transparent material. Therefore, a second advertising section 25 (comprising a printed sheet or a printed pattern), as will be described later in detail, can be clearly viewed from the outside.

10       The advertising section 25 is provided on an inner surface of the inner housing 20b. That is to say, since the opener body 20 has the cylindrical configuration, the advertising section 25 is rolled into a cylindrical configuration to be installed on the inner surface of the inner housing 20b. When the advertising section 25 is installed on the inner surface of the inner housing 20b, a lower end of the advertising section 25 is inserted into an inward flange portion  
15       20c which is formed at a lower end of the inner housing 20b, whereby the advertising section 25 is prevented from being unintentionally released. In this regard, it can also be contemplated that, without forming the inward flange portion 20c, the advertising section 25 can be directly bonded to the inner surface of the inner housing 20b. The advertising section 25 may comprise a printed  
20       pattern or a printed sheet. A variety of advertising sections 25 can be employed in a manner such that they can be easily replaced one with another.

25       Due to the fact that the outer and inner housings 20a and 20b are formed of transparent material, the advertising section 25 provided on the inner surface of the inner housing 20b can be viewed from the outside. Of course, it can be noted that the advertising section 25 may be provided in the space defined  
between the outer and inner housings 20a and 20b, differently from the above-described embodiment.

30       In the preferred embodiment of the present invention, a filler element 26 is placed in the space defined between the outer and inner housings 20a and 20b. The filler element 26 may comprise, for example, liquid such as water, or solid

material such as sand or beads of a fine diameter. Due to the presence of the filler element 26, the push opener can stimulate one's curiosity, and an aesthetic appearance of the entire push opener can be improved. At this time, an airtight cap 23 is fitted into an opened upper end of the space defined between the outer and inner housing 20a and 20b, to prevent the filler element 26 from leaking to the outside.

The cap removing section installed in the opener body 20 to remove the cap 12 from the bottle 10 comprises an intermediate lid 31, a first operation arm 32, a second operation arm 33, an inclined arm 34, and a spring 36. The intermediate lid 31 is positioned below the upper lid 22 and has a downwardly extending elongate arm 31a. The first operation arm 32 is formed with an engagement projection 32a to be engaged with a lower end of the bottle cap 12. The second operation arm 33 is positioned separately from the first operation arm 32 to support an upper end of the bottle cap 12. The inclined arm 34 has one end which is hinged to the first operation arm 32 and the other end which is positioned directly below the elongate arm 31a of the intermediate lid 31, to be pivoted and thereby raise the first operation arm 32 when the opener body 20 is pushed downward. The spring 36 functions to return the pivoted inclined arm 34 to its original position.

When it is necessary to open the cap 12, the upper end portion of the bottle 10, including the cap 12, is inserted into the opened lower end of the opener body 20. By this, the lower end of the bottle cap 12 is engaged with the engaging projection 32a of the first operation arm 32.

In this state, the opener body 20 is pushed downward. Then, as the inclined arm 34 is pivoted about a hinge 35, the first operation arm 35 is raised. At this time, since one side of the upper end of the bottle cap 12 is supported by the second operation arm 33 and only the first operation arm 32 is raised while being engaged with the lower end of the bottle cap 12, the cap 12 is opened.

As a consequence, in the present invention, because the advertising section 25 is provided to the push opener for easily opening the bottle cap 12

through simple downwardly pushing operation, certain degrees of advertisement and sales promotion effects can be accomplished.

Also, due to the fact that the filler element 26 is placed in the space defined between the outer and inner housings 20a and 20b, it is possible to stimulate one's curiosity and improve an aesthetic appearance of the push opener.

It was explained in the above embodiment that the filler element 26 might comprise solid material. In this case, since the advertising section 25 cannot be viewed from the outside, an amount of the solid material must be appropriately adjusted to allow the advertising section 25 to be properly viewed from the outside.

In the above-described first embodiment, it was explained that the opener body 20 comprises the outer and inner housings 20a and 20b. In this regard, a person skilled in the art will readily recognize that, as shown in Fig. 3, the opener body 20 may comprise a single cylindrical wall instead of being divided into the outer and inner housings 20a and 20b and the advertising section can be provided to the single cylindrical wall.

#### Industrial Applicability

As apparent from the above description, the push opener according to the present invention, constructed as mentioned above, provides advantages in that, since the push opener is provided with an advertising section, certain degrees of advertisement and sales promotion effects can be accomplished. Further, because a filler element is placed in a space defined between inner and outer housings constituting an opener body, it is possible to stimulate one's curiosity and improve an aesthetic appearance of the push opener.

Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying

claims.



Claims

1. A push opener suitable for removing a cap fitted to an opening of a bottle, including an intermediate lid which is positioned below an upper lid and has a downwardly extending elongate arm, a first operation arm which is formed with an engagement projection to be engaged with a lower end of the bottle cap, a  
5 second operation arm which is positioned separately from the first operation arm to support an upper end of the bottle cap, an inclined arm having one end which is hinged to the first operation arm and the other end which is positioned directly below the elongate arm of the intermediate lid, to be pivoted and thereby raise the  
10 first operation arm when an opener body is pushed downward, and a spring for returning the pivoted inclined arm to its original position, the push opener comprising:

an inner housing formed of transparent material;

an outer housing formed of transparent material and positioned radially  
15 outward of the inner housing such that a space is defined between the outer and inner housings; and

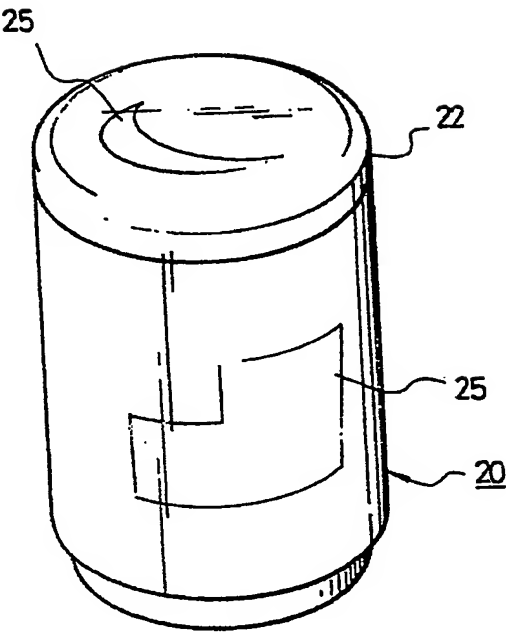
a first advertising section provided to the inner housing or the outer housing.

2. The push opener as set forth in claim 1, wherein the upper lid is  
20 detachably coupled to an upper end of the opener body, and a second advertising section is provided to the upper cap.

3. The push opener as set forth in claim 1, wherein a filler element is placed in the space defined between the outer and inner housings.

1/3

FIG. 1



2/3

FIG. 2

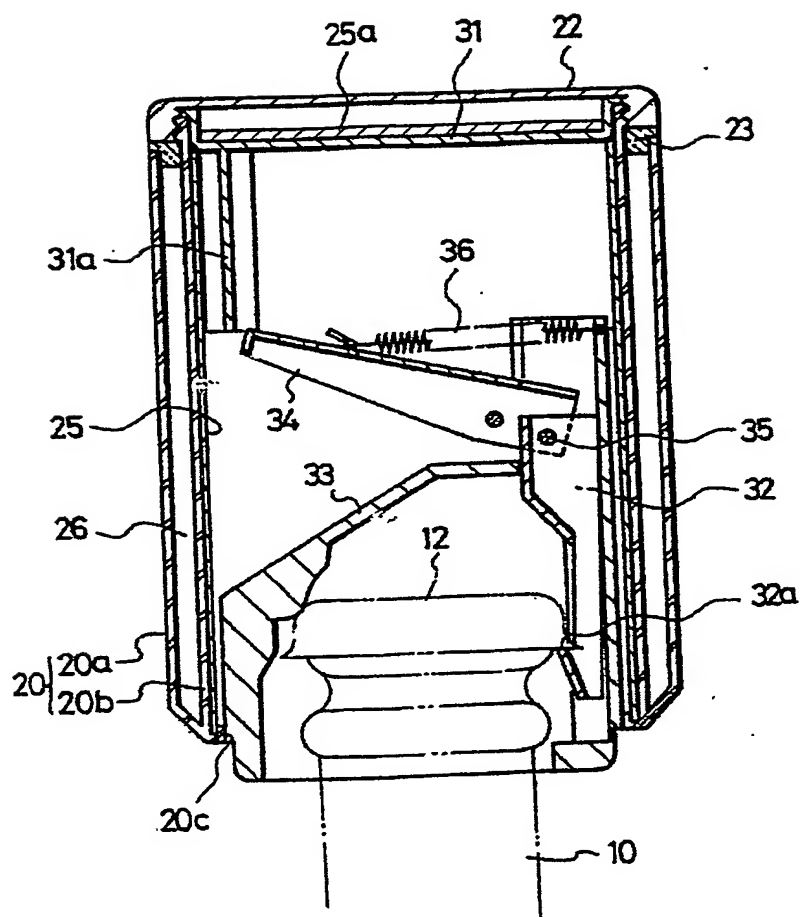
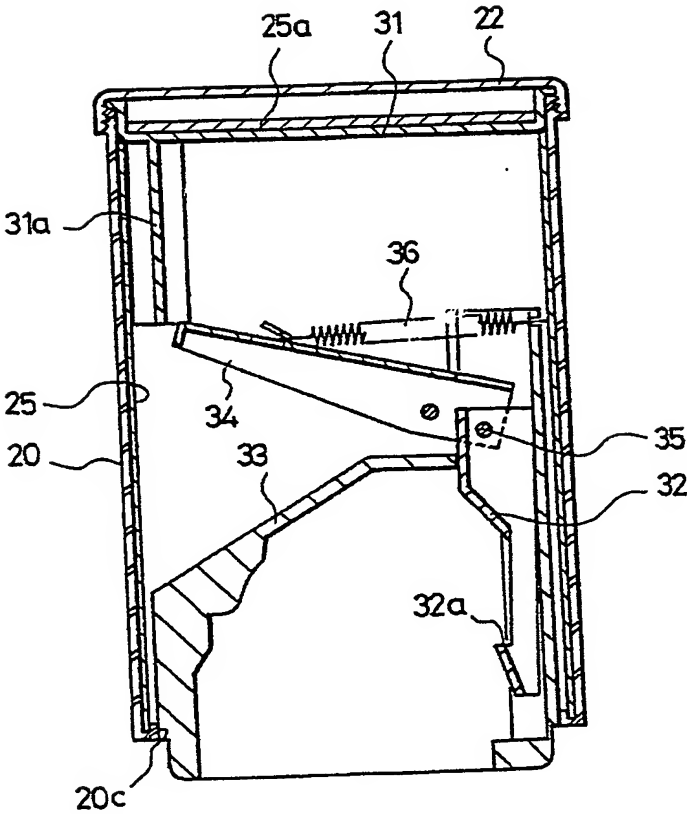


FIG. 3



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR 03/00765-0

## CLASSIFICATION OF SUBJECT MATTER

IPC<sup>7</sup>: B67B 7/16, B67B 7/00, G09F 23/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC<sup>7</sup>: B67B 7/00, G09F 23/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EPODOC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4414866 A (Kichijyo) 15 November 1983 (15.11.83) <i>fig. 2, col. 2 lines 22-44, col. 3 lines 16-54.</i>	1-3
Y	US 4433597 A (Rowland) 28 February 1984 (28.02.84) <i>fig. 16, col. 5, lines 1-30.</i>	1-3

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents:

„A“ document defining the general state of the art which is not considered to be of particular relevance

„E“ earlier application or patent but published on or after the international filing date

„L“ document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

„O“ document referring to an oral disclosure, use, exhibition or other means

„P“ document published prior to the international filing date but later than the priority date claimed

„T“ later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

„X“ document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

„Y“ document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

„&amp;“ document member of the same patent family

Date of the actual completion of the international search

4 July 2003 (04.07.2003)

Date of mailing of the international search report

12 August 2003 (12.08.2003)

Name and mailing address of the ISA/AT

Austrian Patent Office

Dresdner Straße 87, A-1200 Vienna

Facsimile No. 1/53424/535

Authorized officer

STEINZ-KRISMANIC C.

Telephone No. 1/53424/387

Form PCT/ISA/210 (second sheet) (July 1998)

BEST AVAILABLE COPY

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.  
PCT/KR 03/00765-0

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
US	A	4414866	15-11-1983	JP	A2	56113584	07-09-1981
				JP	A2	57077496	14-05-1982
				JP	A2	57096992	16-06-1982
US	A	4433597	28-02-1984	none			

BEST AVAILABLE COPY